AMENDMENTS TO THE CLAIMS

All pending claims are reproduced below. Claims 9, 18 and 21 are cancelled. Claims 1, 10 and 22-25 are amended. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended): A computer implemented method implemented within a computer system including memory and CPU for generating a highly condensed visual summary of video regions, comprising:

utilizing the memory and CPU for determining a dominant group in each of a plurality of video segments;

utilizing the memory and CPU for determining a key frame in each of the video segments;

utilizing the memory and CPU for defining a germ associated with each dominant group in each of the video segments, wherein the video segment less the germ defines a support in each of the video segments;

utilizing the memory and CPU for separating the germ from the video segments;

utilizing the memory and CPU for laying out the germs on a canvas, wherein the canvas is partitioned into disjoint areas corresponding to the germs, wherein the shape of the areas is defined using a Voronoi algorithm; and

utilizing the memory and CPU for filling in the space of the canvas ~~between the germs~~ inside each disjoint area not occupied by its corresponding germ, wherein filling in the space of the canvas ~~between the germs~~ includes ~~laying out one or more portions of the supports by~~ assigning a pixel value of a point in the space from the same value as the corresponding pixel of

the germ's support ~~pixel values of a support of a neighboring germ based on a distance from the point to the neighboring germ~~, wherein a point in the space is only assigned a background value if the germ's support does not include the point, wherein the canvas generated is a highly condensed visual summary of the plurality of video segments.

2. (Previously Presented): The method of claim 1 wherein determining a dominant group includes:

determining a group within each of the plurality of video segments having the largest 3-D volume.

3. (Original): The method of claim 1 wherein defining a germ includes:

defining a two dimensional shape that encompasses the projection of the dominant group onto the key frame.

4. (Original): The method of claim 3 wherein the two dimensional shape is a rectangle.

5. (Original): The method of claim 3 wherein laying out the germs includes:

determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas.

6. (Original): The method of claim 3 wherein laying out the germs includes:

placing the germs in rows, wherein each row has a height according to the longest germ in the particular row.

7. (Cancelled)

8. (Previously Presented): The method of claim 1 wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point.

9. (Cancelled)

10. (Currently Amended): A computer implemented method implemented within a computer system including memory and CPU for generating a highly condensed visual summary of video regions, comprising:

utilizing the memory and CPU for determining a germ in each of a plurality of images, the germ containing a region of interest, wherein the video region less the germ defines a support in each of the video regions;

utilizing the memory and CPU for separating the germ from the video segments;

utilizing the memory and CPU for laying out the germs on a canvas, wherein the germs are laid out in irregular two dimensional shapes on the canvas; and

utilizing the memory and CPU for filling in the space of the canvas between the irregular two dimensional shape germs by laying out one or more parts of the support by assigning the same value as the corresponding pixel of the germ's support when this point is nearest the germ, and only when the germ's support does not encompass the point assigning a pixel value of a point in the space from pixel values of a support of a neighboring germ based on a distance from the point to the neighboring germ, wherein a point is assigned an average value of nearby pixels

only if no support includes the point, wherein the canvas generated is a highly condensed visual summary of video regions.

11. (Previously Presented): The method of claim 10 wherein determining a germ includes: detecting a face in each of the plurality of images.

12. (Previously Presented): The method of claim 10 wherein determining a germ includes: receiving user input, the user input associated with a part of an image.

13. (Previously Presented): The method of claim 10 wherein determining a germ includes: using an algorithm to determine the regions of interest of an image based on one or more methods selected from the group consisting of a face-detection algorithm, an object detection algorithms and user input.

14. (Previously Presented): The method of claim 10 wherein laying out the germs includes: determining a scale factor to be applied to every germ such that the germs are scaled to the maximum size that fits into the canvas.

15. (Previously Presented): The method of claim 10 wherein laying out the germs includes: placing the germs in rows, wherein each row has a height according to the longest germ in the particular row.

16. (Cancelled)

17. (Previously Presented): The method of claim 10 wherein if the germ closest to the point does not have a support that includes the point, the point is assigned the pixel value of the closest germ with a support that includes the point.

18. (Cancelled)

19. (Previously Presented): The method of claim 1 wherein defining a germ includes:

detecting a face in each of the plurality of images.

20. (Previously Presented): The method of claim 1 wherein defining a germ includes:

using an algorithm to determine a region of interest of an image.

21. (Cancelled)

22. (Currently Amended): A computer implemented method implemented within a computer system including memory and CPU for generating a highly condensed visual summary of video regions, comprising:

utilizing the memory and CPU for determining a germ in each of a plurality of images, the germ containing a region of interest;

utilizing the memory and CPU for defining a support in each of the video segments, wherein the support is the video segment less the germ;

utilizing the memory and CPU for separating the germ from the video segments;

utilizing the memory and CPU for laying out the germs on a canvas, wherein there is no more than one germ for every video segment, wherein the canvas is partitioned into disjoint areas corresponding to the shape of the germs, wherein the shape of the germs is defined by a Voronoi algorithm; and

utilizing the memory and CPU for filling in the space of the canvas between the disjoint areas corresponding to the shape of the germs, wherein filling in the space of the canvas between the germs includes laying out one or more portions of the supports by assigning a pixel value of a point in the space from the same value as the corresponding pixel of the germ's support when this point is nearest the germ, and only when the germ's support does not encompass the point assigning pixel values of a support of a neighboring germ based on a distance from the point to the neighboring germ, wherein a point in the space is only assigned a background value if no support includes the point, to generate a highly condensed visual summary of the plurality of video segments.

23. (Currently Amended): A computer implemented method implemented within a computer system including memory and CPU for generating a highly condensed visual summary of video regions, comprising:

utilizing the memory and CPU for determining a germ in each of a plurality of images, the germ containing a region of interest;

utilizing the memory and CPU for defining a support in each of the video segments, wherein the support is the video segment less the germ;

utilizing the memory and CPU for separating the germ from the video segments;

utilizing the memory and CPU for laying out the germs on a canvas, wherein the germs

are laid out in irregular two dimensional shapes on the canvas;

utilizing the memory and CPU for defining a space between the germs; and

utilizing the memory and CPU for filling in the space of the canvas between the irregular two dimensional shape germs, wherein filling in the space of the canvas between the irregular two dimensional shape germs includes laying out one or more portions of the supports by assigning the same value as the corresponding pixel of the germ's support when this point is nearest the germ, and only when the germ's support does not encompass the point assigning a pixel value of a point in the space from pixel values of a support of a neighboring germ based on a distance from the point to the neighboring germ, wherein a point between the irregular two dimensional shape germs is assigned an average value of nearby point values only if no support includes the point, to generate a highly condensed visual summary of the plurality of video segments.

24. (Currently Amended): A computer implemented method implemented within a computer system including memory and CPU for generating a highly condensed visual summary of video regions, comprising:

utilizing the memory and CPU for determining a dominant group in each of a plurality of video segments, wherein the dominant group includes a face;

utilizing the memory and CPU for determining a key frame in each of the video segments;

utilizing the memory and CPU for defining a germ associated with each dominant group in each of the video segments, wherein the germ is the x-y projection of the dominant group including the face onto the keyframe;

utilizing the memory and CPU for separating the germ from the video segments;

utilizing the memory and CPU for laying out the germs on a canvas, wherein the canvas is partitioned into disjoint areas corresponding to the germs, wherein the shape of the disjoint areas is defined using one or more algorithm selected from the group consisting of the distances between the germs, the distance between the face and the germ and the distance between two or more faces and the germ; and

utilizing the memory and CPU for filling in the space of the canvas between the disjoint areas corresponding to the germs, wherein filling in the space of the canvas between the germs includes laying out one or more portions of the supports by assigning a pixel value of a point in the space from the same value as the corresponding pixel of the germ's support when this point is nearest the germ, and only when the germ's support does not encompass the point assigning pixel values of a support of a neighboring germ based on a distance from the point to the neighboring germ, wherein a point between the irregular two dimensional shape germs is assigned an average value of nearby point values only if no support includes the point, wherein the canvas generated is a highly condensed visual summary of the plurality of video segments.

25. (Currently Amended): A computer implemented method implemented within a computer system including memory and CPU for generating a highly condensed visual summary of video regions, comprising:

utilizing the memory and CPU for determining a germ in each of a plurality of images, the germ containing a region of interest;

utilizing the memory and CPU for defining a support in each of the video segments, wherein the support is the video segment less the germ;

utilizing the memory and CPU for separating the germ from the video segments;

utilizing the memory and CPU for laying out the germs on a canvas, wherein the canvas is partitioned into disjoint areas corresponding to the shape of the germs;

utilizing the memory and CPU for computing boundary curves between the germs, wherein the boundary curves between the germs are defined using one or more ~~a Voronoi~~ algorithm selected from the group consisting of the distance between a point and the closest border of the germ, the distance between a point and the center of a germ and the distance between a point and the size of the germ;

utilizing the memory and CPU for defining a space between the boundary curves; and

utilizing the memory and CPU for filling in the space of the canvas, wherein filling in the space of the canvas includes laying out one or more portions of the supports by assigning a pixel value of a point in the space from the same value as the corresponding pixel of the germ's support when this point is nearest the germ, and only when the germ's support does not encompass the point assigning pixel values of a support of a neighboring germ based on a distance from the point to the neighboring germ, wherein a point between the boundary curves is assigned an average value of nearby point values only if no support includes the point, to generate a highly condensed visual summary of the plurality of video segments.

26. (Previously Presented): The method of claim 3 wherein the two dimensional shape is irregular.

27. (Previously Presented): The computer implemented method of claim 25 wherein the germs are laid out in irregular two dimensional shapes on the canvas.